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I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

I also certify that the attached copy of the request for grant of a Patent (Form 1/77) bears an amendment, effected by this office, following a request by the applicant and agreed to by the Comptroller-General.

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Signed

Dated 12 February 2004

THE PATENT OFFICE

B

26 MAR 2003

NEWPORT



26MAR03 E795150-16 D10143  
P01/7700 0.00-0306886.3

# Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road  
Newport  
South Wales  
NP10 8QQ

1. Your reference

WIN/NTH/220/098

2. Patent application number

(The Patent Office will fill in this part)

0306886.3

26 MAR 2003

3. Full name, address and postcode of the or of each applicant (underline all surnames)

Patents ADP number (if you know it)

N/A

If the applicant is a corporate body, give the country/state of its incorporation

N/A

8596769001

4. Title of the invention

~~PERSONAL ATTACK ALARM~~

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

FORRESTER KETLEY & Co  
CHAMBERLAIN HOUSE  
PARADISE PLACE  
BIRMINGHAM B3 3HP

Patents ADP number (if you know it)

133005

Address for service  
Wales Innovators Network  
Welsh Development Agency  
Plas Glyndŵr  
CF10 3AH

8396723002

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number  
(if you know it)

Date of filing  
(day / month / year)

N/A

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing  
(day / month / year)

N/A

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or
  - b) there is an inventor who is not named as an applicant, or
  - c) any named applicant is a corporate body.
- See note (d))

NO

**Patents Form 1/77**

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form

Description

Claim(s)

Abstract

Drawing(s)

A  
1  
2 x 2 Mr

10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*)

Request for preliminary examination and search (*Patents Form 9/77*)

ONE

Request for substantive examination (*Patents Form 10/77*)

Any other documents  
(*please specify*)

11. I/We request the grant of a patent on the basis of this application.

Signature

Date

12. Name and daytime telephone number of person to contact in the United Kingdom

~~XXXXXXXXXX~~ Tony Guile  
029 2082 8891

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**Notes**

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- d) If you have answered 'Yes' Patents Form 7/77 will need to be filed.
- e) Once you have filled in the form you must remember to sign and date it.
- f) For details of the fee and ways to pay please contact the Patent Office.

**Description of invention:** Personal attack/alarm and transmitter unit.

**Background:**

Existing personal alarms are generally designed specifically for adult female users. They are designed to fit into handbags, etc and usually omit a sound, and sometimes a chemical spray to distract an attacker.

**Problems associated with existing alarm systems.**

- ❖ A degree of forward planning and calm thinking are involved in the employment of such devices, i.e. finding the alarm in bag etc, careful aiming of device, (especially where a spray is involved)
- ❖ Both hands are usually required in finding and using the device.
- ❖ The whole process can take quite a time.
- ❖ Children and vulnerable groups such as blind (where there is a natural lack of other forensic evidence such as visibly identifying the attacker), disabled where dexterity is necessary to trigger the device, have not been considered in the design of such devices.
- ❖ In a panic situation there are too many elements to cope with in the execution of existing devices.
- ❖ The victim can be separated from the device too easily.
- ❖ Aimed devices, where accuracy is important is almost impossible in most attacks.
- ❖ Sound devices are often ignored or go un noticed in a world of mobile phones and general noise.
- ❖ Most devices rely on the moment of the attack.

**How this device rectifies problems:**

- ❖ This device is specifically aimed at children, and other vulnerable groups including blind or partially sighted, and physically impaired, less dextrous persons, as well as the usual groups.
- ❖ The device is immediately at hand, instantly employed and requires very little planning or presence of mind to trigger.
- ❖ The device creates instant forensic evidence, marking the victim, attacker and ground/surroundings of the attack.
- ❖ The device requires one hand to trigger, and makes a strong visible statement.
- ❖ As the device is immediately at hand the victim is able to time their response to greater effect, i.e. the victim may have entered a vehicle etc before realising the danger. It is not too late to activate the device to mark the surroundings and occupants.
- ❖ The transmitter/tracking device allows police to locate the unit regardless of whether the victim has had chance to activate the device themselves.

**Essential features.**

- ❖ Belt attachment, keeping the unit at reach at all times.
- ❖ Single hand operation.
- ❖ Explosive device to expel dye/staining agent.
- ❖ Transmitting/tracking device which is activated on employment of unit.
- ❖ Transmitting/tracking device which if not activated by victim, can be activated from external source.

❖ **Notes to accompany drawings:**

**DEVICE COMPRISES OF;**

- ❖ **inner container incorporating**
- ❖ **detonator ( ),**
- ❖ **dye/powder chamber ( )**
- ❖ **exit points for dye. ( )**
- ❖ **tracking/transmitter device. ( )**
- ❖ **detonating cord with attached ring ( )**
- ❖ **finger hole handle. ( )**
  
- ❖ **outer container incorporating**
- ❖ **belt attachment ( )**
- ❖ **safety flap, secured to back of case, with fixing agent to front of case. ( )**
- ❖ **housing for inner container ( )**
- ❖ **aperture for detonator ring ( )**
- ❖ **slide anchor pin to secure detonator ring to outer case ( )**
- ❖ **contact point for transmitter/tracker device. ( )**

**To set the system.**

1. **slide safety pin ( ) to clear aperture in base of outer case.**
2. **drop inner container into outer case.**
3. **fix safety flap through finger apertures and onto outer case front.**
4. **slide safety pin through detonator ring and into belt clasp.**

**To operate alarm**

1. **release safety flap at top of unit.**
2. **place two fingers in handle and pull upwards.**

**How the unit works.**

**As the inner container slides out of outer case, the detonator cord which is attached via ring to base of case, detonates the charge, causing explosion in detonator chamber which then expels dye through exit points in front and rear of inner container.**

**The expelled dye will cloud and mark the area around the unit, including the ground and surroundings.**

Retracting the inner container, also breaks contact and activates the transmitter device allowing a signal to be detectable.

In the event of a victim being unable to activate the alarm, the transmitter can be activated from an external source by police or other body.

### **Area of possible objection.**

1. The dye would need to be high staining and difficult/impossible to remove if it is to be of forensic use. There is therefore a nuisance element in the event of abuse of the device, or accidental detonation. The safety flap acts as an obstruction to accidental detonation, without complicating the operation of the unit by the victim of an attack. However, education regarding abuse of the unit and serious implications of abuse should be simplified considering the resulting inconvenience of stained skin and damaged clothing of all involved parties.
2. Parental and social education of the appropriate usage of any marking device is necessary in order to avoid nuisance of mis-use, but weighed against the advantages of such an aid, the forensic advantages to police, and the potential improved chances of the victims recovery, and rapid apprehension of the attacker/s, make it worthwhile.

### Description of Figures

Figures 1, 2 3, 4 and 5 illustrate one embodiment of the idea. Figure 1 shows an overall view. The finger hole handle 1 also provides access for the safety flap 9 to clip through and attach to the body of the holder 3. The complete unit clips over a belt 2 via clip 4. The detonator ring 6 is held in place in normal operation by pin 5. The dye chamber 8 has access windows 11 to allow the dye to be expelled. Figure 5 illustrates the inner container pulled from the outer case, with the string 7 extended to cause the detonation of the charge 10.

## **Claims**

1. A personal attack alarm, comprising at least one housing which contains a quantity of dye, a propelling means for the dye and a triggering means to activate the propelling means, where the at least one housing includes at least one aperture arranged such that on operation of the triggering means the propelling means propels the dye through said at least one aperture.
2. A personal attack alarm as claimed in claim 1, where the propelling means is a pyrotechnic charge.
3. A personal attack alarm as claimed in any previous claim, where the triggering means is a pull cord.
4. A personal attack alarm as claimed in any previous claim, where the dye incorporates a marker detectable with specialist equipment.
5. A personal attack alarm as claimed in claim 4, where the marker is detectable using an ultra-violet light source.
6. A personal attack alarm as claimed in claim 4, where the marker is detectable using DNA profiling.
7. A personal attack alarm as claimed in any previous claim, where the at least one housing includes a second housing and is arranged such that relative movement between the at least one housing and the second housing operates the triggering means.



Figure 1

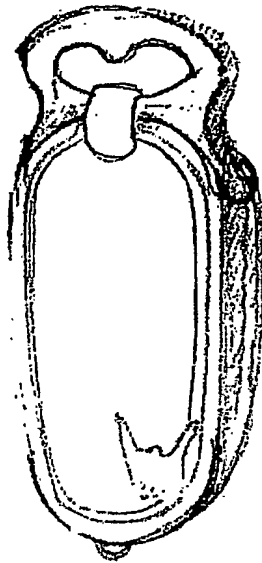


Figure 2

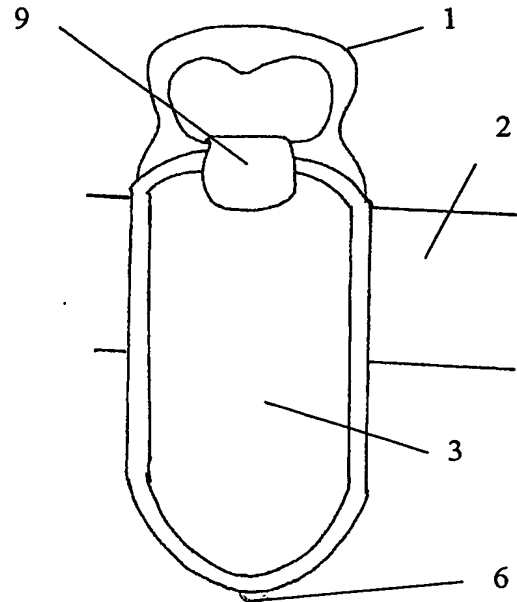


Figure 3

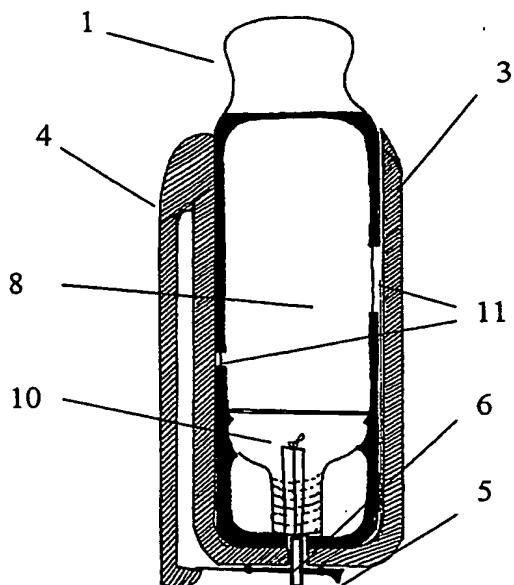


Figure 4

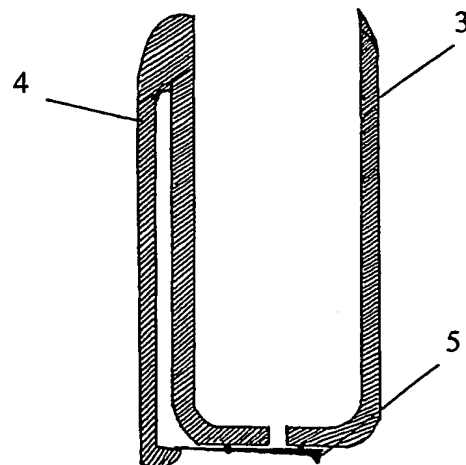
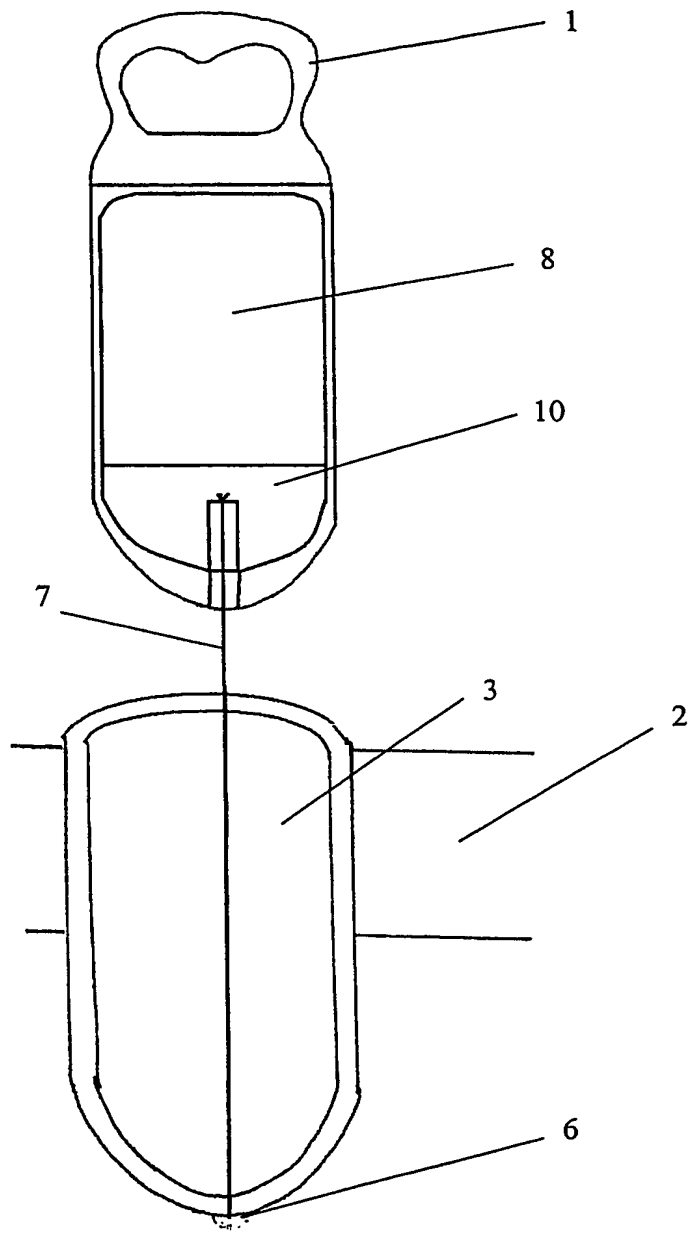


Figure 5



PCT Application  
**GB0305717**



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